

Two New and Two Resurrected Species of the Sciaenid Genus *Johnius* (*Johnius*) from the West Pacific

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Abstract Two new species of the sciaenid genus *Johnius* (*Johnius*) are described: *J. trewavasae* from Taiwan, Hong Kong, and Singapore, differs from all other congeners in having 24–27 dorsal soft rays, 5–6 scales above and 7–10 scales below the lateral line, 6–8 obtuse lower gill rakers, the last pleural rib on the 11th vertebra, and a shorter lower jaw (33.8–38.4% HL); *J. latifrons* from Thailand and Java is characterized by 25–29 dorsal soft rays, 7–9 scales above and 11–14 scales below the lateral line, 7–9 obtuse lower gill rakers, a wide interorbital width (26.1–30.6% HL), a small eye (16.7–26.4% HL), and a short, second anal spine (25.9–37.1% HL). Two related species, *J. heterolepis* Bleeker from “Suriname” and *J. cantori* Bleeker from Malaya, are resurrected as valid West Pacific species of *Johnius* (*Johnius*).

Johnius is the largest and taxonomically the most confused genus within the Indo-West Pacific Sciaenidae. Trewavas (1977) recognized 18 valid species, assigned to two subgenera, *Johnius* and *Johnieops*, the latter being characterized by a row of enlarged teeth on the lower jaw. Within the subgenus *Johnius*, Trewavas (1977) recognized 10 valid species. However, the addition of *J. carouna* (Cuvier, 1830) by Mohan (1983, 1984), *J. grypotus* (Richardson, 1846) by Sasaki (1990), *J. glaucus* (Day, 1876) by Mohan (1983) and Sasaki and Kailola (1991), and *J. laevis* Sasaki and Kailola, 1991, brought the number of species to 14. This paper adds two new species of *Johnius* (*Johnius*) from the West Pacific. In addition, the status of two species of questionable identity, *J. heterolepis* Bleeker, 1873, from “Suriname” and *J. cantori* Bleeker, 1874, from Malaya, is also discussed.

Counts and measurements follow Sasaki and Kailola (1988). Selected head length and eye diameter proportions are given to enable direct comparison with data from Trewavas (1977). Osteological descriptions are based on radiographs (not available for *J. heterolepis* syntypes). Institutional abbreviations follow Leviton et al. (1985). Standard length and head length are expressed as SL and HL, respectively. Counts and measurements of the paratypes of the new species are given in parentheses.

Johnius (*Johnius*) *trewavasae* sp. nov.

(Figs. 1, 2A)

Johnius cantori (not of Bleeker, 1874): Fowler, 1932: 447

(Singapore).

Johnius osseus (not of Day, 1876): Fowler, 1933: 379 (Singapore).

Johnius carutta (not of Bloch, 1793): Fowler, 1933: 384 (in part, Hong Kong).

Johnius (*Johnius*) *macrorhynchus* (not of Mohan, 1976): Trewavas, 1977: 412 (in part, Singapore).

Holotype. HUMZ 109504, 126.8 mm SL, Taiwan Strait, 16 April 1986, K. Nishida.

Paratypes (14 specimens). ANSP 52863, 137.6 mm SL, Hong Kong, fish market, April 1929, H. W. Fowler; ANSP 53478, 2 specimens, 123.5–135.7 mm SL, Singapore, Clyde Terrace Market, 2 April 1931, W. Birtwistle; CAS (SU) 60859, 151.6 mm SL, Hong Kong (south of Ninepin Island, 22°13'30"N, 114°21'30"E), 29–31 m, 20 December 1957, R. L. Bolin; CAS (SU) 60870, 127.5 mm SL, Hong Kong (Lema Channel off Po Toi Island, 22°08'40"N, 114°16'30"E), 36 m, 16 December 1957, R. L. Bolin; CAS (SU) 60918, 136.5 mm SL, Hong Kong (channel between Hong Kong and Lo Chan Islands, 22°11'57"N, 114°15'00"E), 24–44 m, 20 December 1957, R. L. Bolin; CAS (SU) 61045, 3 specimens, 98.5–148.0 mm SL, Hong Kong (off Castle Peak Bay, 22°21'15"N, 113°58'40"E), 7 m, 13 February 1958, R. L. Bolin; CAS (SU) 61080, 2 specimens, 125.8–147.4 mm SL, Hong Kong (west of Sha Chan Island, 22°20'50"N, 113°51'50"E), 4 m, 13 February 1958, R. L. Bolin; CAS (SU) 61484, 2 specimens, 111.2–138.9 mm SL, Hong Kong (off Fung Bay, 22°24'00"N, 114°25'00"E), 22 m, 7 January 1958, R. L. Bolin; HUMZ 109501, 119.2 mm SL, collected with the holotype.

Diagnosis. A species of *Johnius* (*Johnius*) with the following combination of characters: dorsal soft rays 24–27; scales above lateral line 5–6, below lateral line 7–10; gill rakers 2–5 + 1 + 6–8; last well-

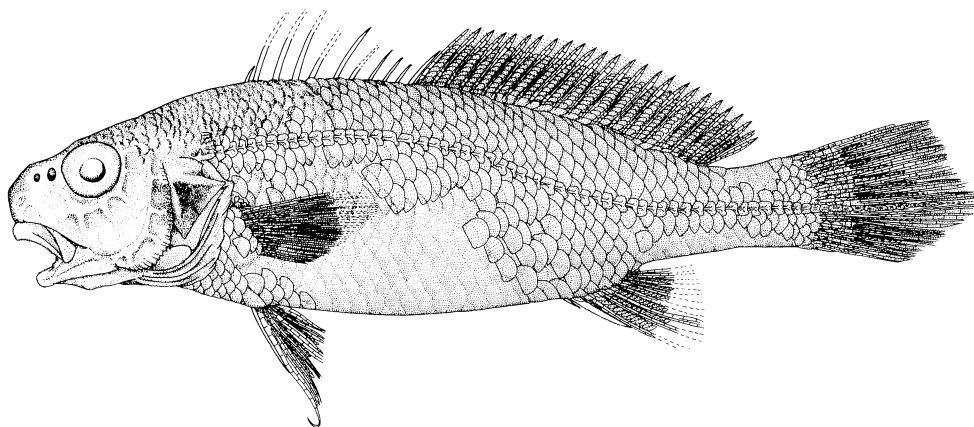


Fig. 1. *Johnius (Johnius) trewavasae* sp. nov., holotype, HUMZ 109504, 126.8 mm SL.

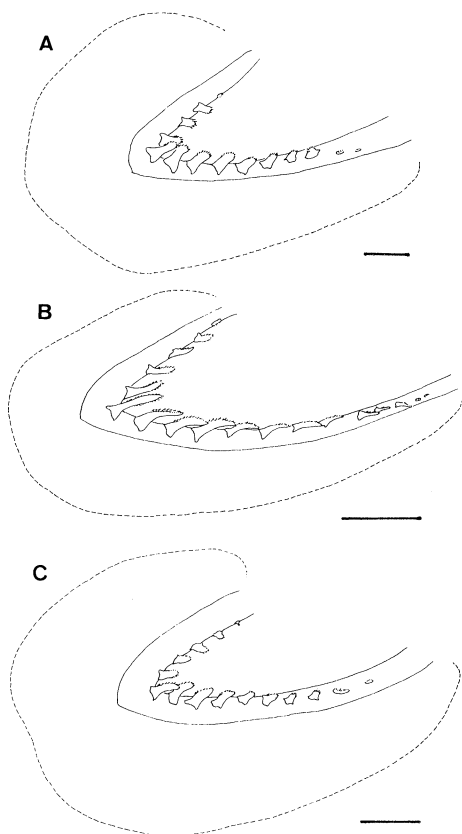


Fig. 2. First gill arches of (A) *Johnius (Johnius) trewavasae* sp. nov. (paratype, HUMZ 109501), (B) *J. (J.) heterolepis* (CAS (SU) 30859), and (C) *J. (J.) latifrons* sp. nov. (paratype, HUMZ 101707). Broken line indicates outer margin of gill filaments. Bar = 2 mm.

developed pleural rib on 11th vertebra; lower jaw length 10.1–12.2% SL (33.8–38.4% HL); second anal spine length 7.6–11.3% SL (25.0–37.0% HL); snout steep, obtusely rounded; chin lacking barbel; gill rakers very short, obtuse; scales on body large, ctenoid.

Description. Dorsal rays X+I, 25 (usually X+I, XI+I in two; 24–27, 24 in three, 25 in five, 26 in five, 27 in one); anal rays II, 7 (II, 7–8; usually 7, 8 in one); pectoral rays 19 (17–19; 17 in two, 18 in 10, 19 in one, uncountable in one); lateral line scales 50 (47–50); scales above lateral line 5 (5–6), below lateral line 8 (7–10); gill rakers 3+1+7 (2–5+1+6–8); vertebrae 11+14 (11+14), last well-developed pleural rib on 11th vertebra (11th), first anal proximal radial between 12th and 13th vertebrae (12th and 13th); swimbladder appendages not counted (14 in one paratype). Proportions as % SL: head length 30.4 (28.4–32.8); body depth 28.3 (23.6–29.6); body width 15.0 (11.0–18.8); caudal peduncle length 23.3 (21.4–25.4); caudal peduncle depth 11.0 (8.5–10.7); snout length 9.7 (8.6–10.3); eye diameter 7.2 (6.6–8.1); interorbital width 6.9 (6.8–7.8); upper jaw length 10.6 (9.2–11.3); lower jaw length 11.5 (10.1–12.2); pectoral fin length—fin broken (18.4–23.1); pelvic fin length 18.3 (15.8–19.1); second dorsal spine length—spine broken (13.0 and 17.0 in two); third dorsal spine length—spine broken (13.2–16.7 in five); fourth dorsal spine length—spine broken (11.8–15.2 in four); fifth dorsal spine length—spine broken (10.4–12.2 in four); second anal spine length 9.4 (7.6–11.3); gill raker length 0.6 (0.7–1.2); gill filament length 3.4 (3.4–4.0). Proportions as % HL: snout length 31.9 (29.0–32.8); eye diameter 23.6

(22.4–27.4); interorbital width 22.5 (22.1–24.4); upper jaw length 34.7 (30.2–35.5); lower jaw length 37.8 (33.8–38.4); second anal spine length 30.8 (25.0–37.0); gill raker length 1.8 (2.4–3.9); gill filament length 11.4 (10.8–13.2). Proportions as % eye diameter: gill raker length 7.7 (9.6–16.2); gill filament length 48.4 (44.9–55.7).

Snout steep, obtusely rounded, projecting slightly in front of upper jaw. Mouth small, inferior, maxillary extending to anterior margin of pupil.

Five upper and five marginal snout pores, rostral fold deeply notched. Three pairs of mental pores, anterior pair with a common opening. Chin lacking barbel.

Upper jaw with a single, outer row of closely spaced, enlarged teeth, and an inner band of small, conical teeth, comprising five anterior rows and three posterior rows. Lower jaw with a band of uniformly small, conical teeth, comprising five anterior rows and two posterior rows.

Eye moderately large, rounded. Nostrils just before eye; anterior and posterior nostrils ovate. Gill rakers very short, obtuse (Fig. 2A); gill filaments about six times as long as gill rakers adjacent to angle of gill arch.

Scales large, those on flank much larger than those on lateral line; cycloid on head (scale condition on operculum unknown), pectoral axil, throat, membrane of soft dorsal, anal, and caudal fins; weakly ctenoid elsewhere.

Second dorsal spine longest. First soft ray of pelvic fin with short filament. Second anal spine short, slender, its length about 2/3 of first anal soft ray.

Swimbladder hammer-shaped, with a number of arborescent appendages arising along entire lateral surface. Sagitta Johniine pattern (Trewavas, 1977). Drumming muscle present in males, absent in females.

Colour in alcohol (based on recently collected HUMZ material): dark mottled pattern dorsally, creamy-white ventrally. Scale pockets on dorsal side of head and body with broad, dark margins. Mouth lining pale except for gray-speckled palate. Operculum appears black owing to black lining of branchial cavity. Peritoneum black. Spinous dorsal fin black, soft dorsal fin mottled gray; pectoral fin gray; pelvic fin pale; anal fin spotted with a few melanophores; caudal fin gray, dark distally. Colour when fresh: unknown.

Synonymies. Fowler (1932) identified ANSP 53478 as *Johnius cantori*, but later (Fowler, 1933)

reidentified it as *J. osseus*, at the same time misidentifying ANSP 52863 as *J. carutta*. Trewavas (1977) included ANSP 53478 in her study material of *J. (J.) macrorhynchus*. Sasaki (1990, p. 227) referred to the as then unnamed *J. (J.) trewavasae* as “a species of this subgenus [*Johnius*] of questionable identity.”

Distribution. Known from Taiwan, Hong Kong, and Singapore.

Etymology. Named in honor of Ethelwynn Trewavas in recognition of her many contributions to the knowledge of sciaenid systematics.

Remarks. For comparisons with related species, see this section under *J. (J.) heterolepis*.

Johnius (Johnius) heterolepis Bleeker, 1873 (Figs. 2B, 3)

Johnius heterolepis Bleeker, 1873: 456, pl. 21 (Type locality: “Suriname”—see below—distribution section).

Sciaena heterolepis: Jordan and Eigenmann, 1889: 405 (remarks).

Plagioscion heterolepis: Chao, 1978: 43 (remarks).

Syntypes. RMNH 6042, 2 specimens, 115.2 and 123.3 mm SL, “Suriname.”

Other material (6 specimens). AMS I. 28979-021, 91.3 mm SL, Malaysia, 1°00′–7°00′N, 98°00′–107°00′E, coll. date before 1923, D. G. Stead; AMS I. 30907-048, 67.0 mm SL, Malaysia, 1°00′–7°00′N, 98°00′–107°00′E, coll. date before 1922, D. G. Stead; CAS (SU) 30859, 87.6 mm SL, coast of Sumatra, 100 miles west of Singapore, Indonesia, 27 March 1934, A. W. C. T. Herre; MNHN 1977.221, 145.9 mm SL, Malaysia, F. Petter; RMNH 680, 140.0 mm SL, Java, Indonesia; RMNH 700, 129.4 mm SL, Jakarta, Java, Indonesia, P. Bleeker.

Diagnosis. A species of *Johnius (Johnius)* with the following combination of characters: dorsal soft rays 25–28; scales above lateral lines 5, below lateral line 9–10; gill rakers 4–5 + 1 + 9–11; last well-developed pleural rib on 10th vertebra; lower jaw length 12.4–14.0% SL (40.3–44.2% HL); snout pointed; chin lacking barbel; gill rakers moderately long, slender; scales on body large, ctenoid.

Description. Data on 123.3 mm SL syntype given first. Dorsal rays X + I, 28 (usually X + I, XI + I in one; 25–28, 25 in one, 26 in one, 27 in four, 28 in one); anal rays II, 7 (II, 7); pectoral rays 17 (18–19 in one); lateral line scales 49 (48–50); scales above lateral line 5 (5), below lateral line 10 (9–10); gill rakers 4 + 1 + 9 (4–5 + 1 + 10–11); vertebrae (10 + 15), last well-developed pleural rib (on 10th vertebra), first anal proximal radial (between

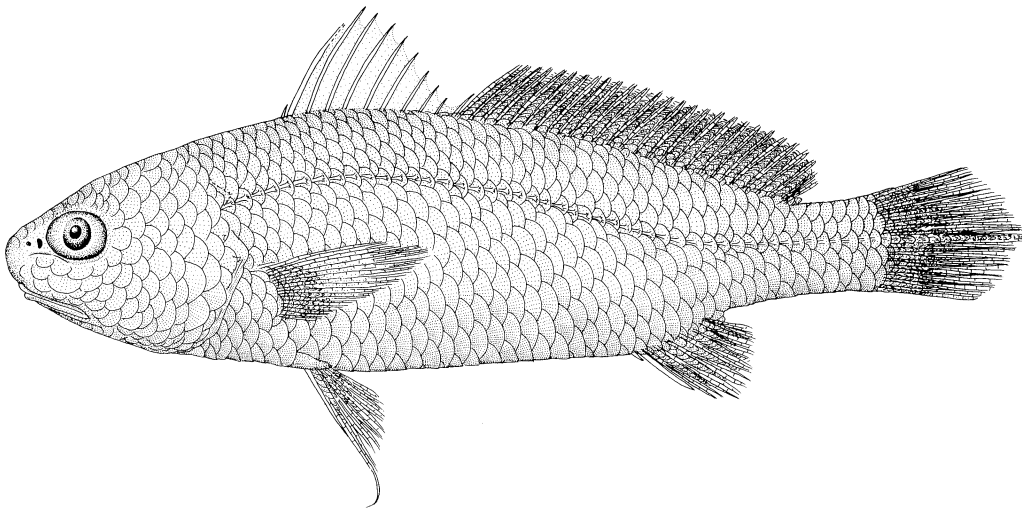


Fig. 3. *Johnius (Johnius) heterolepis* Bleeker, CAS (SU) 30859, 87.6 mm SL.

10th and 11th vertebrae); swimbladder appendages not counted (14 in one). Proportions as % SL: head length 30.8 (29.9–32.1); body depth 26.7 (24.6–27.4); body width 13.5 (10.4–16.9); caudal peduncle length 24.1 (22.7–26.3); caudal peduncle depth 12.6 (10.1–15.1); snout length 8.6 (7.8–9.7); eye diameter 7.4 (6.3–8.5); interorbital width 7.5 (7.5–8.7); upper jaw length 11.3 (10.6–12.2); lower jaw length 12.8 (12.4–14.0); pectoral fin length—fin broken (19.7–21.1); pelvic fin length—fin broken (14.5–16.6); second dorsal spine length—spine broken (13.7 in one); third dorsal spine length—spine broken (14.1–16.1 in three); fourth dorsal spine length—spine broken (12.9–13.9 in two); fifth dorsal spine length—spine broken (10.3–12.9 in three); second anal spine length 7.7 (7.4–10.2); gill raker length 1.6 (1.4–2.4); gill filament length 4.1 (3.3–4.0). Proportions as % HL: snout length 27.9 (26.0–31.3); eye diameter 23.9 (19.3–26.6); interorbital width 24.5 (23.2–27.8); upper jaw length 36.6 (33.6–37.8); lower jaw length 41.6 (40.3–44.2); second anal spine length 25.0 (24.6–34.1); gill raker length 5.3 (4.5–7.4); gill filament length 13.2 (10.8–13.1). Proportions as % eye diameter: gill raker length 22.0 (18.8–28.1); gill filament length 54.9 (43.9–65.9).

Snout pointed, projecting slightly in front of upper jaw. Mouth small, inferior, maxillary extending to posterior margin of pupil.

Five upper and five marginal snout pores, rostral fold deeply notched. Three pairs of mental pores, anterior pair with a common opening. Chin lacking

barbel.

Upper jaw with a single, outer row of closely spaced, enlarged teeth, and an inner band of small, conical teeth, comprising five or six anterior rows and two or three posterior rows. Lower jaw with a band of uniformly small, conical teeth, comprising five or six anterior rows and two or three posterior rows.

Eye moderately large, ovate. Nostrils immediately before eye; anterior and posterior nostrils ovate. Gill rakers moderately long, slender (Fig. 2B); gill filaments about 2.5 times as long as gill filaments adjacent to angle of gill arch.

Scales large, those on flank much larger than those on lateral line; cycloid on anterior half of interorbital space, cheek, preoperculum, pectoral axil, anterior half of throat, membrane of soft dorsal, anal, and caudal fins; ctenoid elsewhere on head and body.

Third dorsal spine longest. First soft ray of pelvic fin with short filament. Second anal spine short, slender, its length about 2/3 of first anal soft ray.

Swimbladder hammer-shaped, with a number of arborescent appendages arising along entire lateral surface. Sagitta Johniine pattern (Trewavas, 1977). Drumming muscle present in females, condition in males unknown.

Colour in alcohol: light brown dorsally, silverish ventrally. No dark melanophores on body and fins. Mouth lining pale; branchial cavity spotted with both large and small, dark melanophores; peritoneum peppered with brown melanophores. Colour

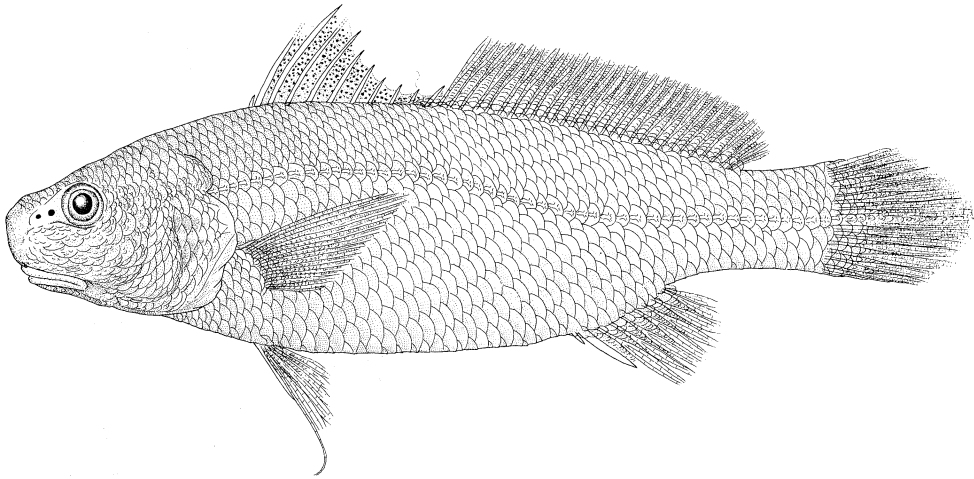


Fig. 4. *Johnius (Johnius) latifrons* sp. nov., holotype, NSMT-P 44942, 152.6 mm SL.

when fresh: unknown.

Synonymies. This name has not been considered in studies of Old World sciaenids (e.g., Trewavas, 1977), because of its supposed collection locality. Jordan and Eigenmann (1889) and Chao (1978) allocated the species to different genera (*Sciaena* and *Plagioscion*, respectively), such allocations being based on Bleeker's (1873) description and locality.

Distribution. Known from Malaysia and Indonesia. Bleeker's (1873) reference to Suriname is apparently incorrect, since *Johnius*, as well as most other genera in the subfamily Otolithinae (sensu Trewavas, 1977, Sasaki, 1989), occur solely in the Indo-West Pacific.

Remarks. *Johnius heterolepis* Bleeker from "Suriname" is here confirmed as a valid West Pacific species, *Johnius (Johnius) heterolepis*.

Both *Johnius trewavasae* and *J. heterolepis* are characterized by large scales, resulting in low counts for scales above and below the lateral line (5–6 and 7–10 in *trewavasae*, 5 and 9–10 in *heterolepis*). In this respect, amongst the 10 *Johnius (Johnius)* species with ctenoid scales and no chin barbel(s), both species resemble *J. carouna* (Cuvier, 1830) (5 scales above lateral line, 9–12 below), *J. hypostoma* (Bleeker, 1853) (5–6, 9–10), and *J. laevis* Sasaki and Kailola, 1991 (5–6, 8–10). However, both species differ from *J. hypostoma* and *J. laevis* in their low numbers of dorsal soft rays (24–27 in *trewavasae*, 25–28 in *heterolepis* vs. 31–33 in *hypostoma*, 29–34 in *laevis*). Although the dorsal soft ray number in *J. carouna* (27–29) overlaps those of *trewavasae* and

heterolepis, the former differs in having a strong, second anal spine (11.7–14.2% SL vs. 9.6–11.3 in *trewavasae*, 7.4–10.2 in *heterolepis*). Moreover, *J. carouna* differs from *J. trewavasae* in having the last pleural rib on the 10th vertebra (vs. 11th), and a greater number of lower gill rakers (10–14 vs. 6–8). It differs from *J. heterolepis* in having a shorter lower jaw (36.6% HL vs. 40.3–44.2). *J. trewavasae* is itself distinguishable from *J. heterolepis* in having 6–8, obtuse lower gill rakers (vs. 9–11, slender), the last pleural rib on the 11th vertebra (vs. 10th), and a shorter lower jaw (33.8–38.4% HL vs. 40.3–44.2).

Pencil marks on the flank of the 123.3 mm SL syntype suggest that this specimen was used for the figure published in Bleeker's description.

***Johnius (Johnius) latifrons* sp. nov.**
(Figs. 2C, 4)

Holotype. NSMT-P 44942, 152.6 mm SL, Songkhla, Thailand, 24 October 1986, shrimp trawl, K. Matsuura and R. Arai.

Paratypes (8 specimens). AMS I. 21033–006, 74.5 mm SL, Phuket Harbour, Thailand, 1978, bottom trawl, Marine Fisheries Laboratory; AMS I. 28995–008, 129.0 mm SL, Songkhla, Thailand, coll. date before 6 May 1922, D. G. Stead; BPBM 18605, 140.7 mm SL, BPBM 18620, 134.1 mm SL, Jakarta fish market, Java, Indonesia, 18 February 1975, J. E. Randall; HUMZ 101707, 110.9 mm SL, HUMZ 101708, 101.9 mm SL, NSMT-P 44940, 2 specimens, 88.8 and 118.1 mm SL, all from Songkhla fish market, Thailand, March 1983, T. Shimizu.

Diagnosis. A species of *Johnius (Johnius)* with

the following combination of characters: dorsal soft rays 25–29; scales above lateral line 7–9, below lateral line 11–14; gill rakers 3–5 + 1 + 7–9; eye diameter 5.0–8.6% SL (16.7–26.4% HL); interorbital width 7.7–9.9% SL (26.1–30.6% HL); second anal spine length 8.1–11.0% SL (25.9–37.1% HL). Snout steep, nearly vertical; chin lacking barbel; lower jaw teeth uniform in size; scales small, ctenoid; pelvic fins pale.

Description. Dorsal rays X + I, 29 (X + I, 25–29; 25 in one, 26 in one, 27 in one, 28 in one, 29 in four); anal rays II, 7 (II, 7); pectoral rays 18 (18–19; 18 in 5, 19 in 3), lateral line scales 48 (48–50); scales above lateral line 9 (7–8), below lateral line 11 (12–14); gill rakers 5 + 1 + 9 (3–4 + 1 + 7–9); vertebrae 10 + 15 (10 + 15), last well-developed pleural rib on 10th vertebra (10th), first anal proximal radial between 10th and 11th vertebrae (10th and 11th); swimbladder appendages not counted (14 in one paratype). Proportions as % SL: head length 28.4 (28.3–32.5); body depth 26.9 (24.8–30.4); body width 14.7 (12.6–17.7); caudal peduncle length 22.0 (23.0–25.0); caudal peduncle depth 12.4 (11.2–14.2); snout length 7.7 (8.6–10.1); eye diameter 5.6 (5.0–8.6); interorbital width 7.8 (7.7–9.9); upper jaw length 10.1 (9.8–11.3); lower jaw length 10.7 (10.2–12.6); pectoral fin length 19.8 (18.1–24.0); pelvic fin length 14.2 (15.7–18.1); second dorsal spine length—spine broken (14.0–21.5); third dorsal spine length 14.1 (13.9–20.0); fourth dorsal spine length—spine broken (12.3–17.7); fifth dorsal spine length 10.6 (8.8–14.8); second anal spine length 8.1 (8.2–11.0); gill raker length 1.3 (1.2–1.8); gill filament length 4.1 (3.5–4.6). Proportions as % HL: snout length 27.3 (28.5–33.3); eye diameter 19.6 (16.7–26.4); interorbital width 27.5 (26.1–30.6); upper jaw length 35.6 (33.3–38.6); lower jaw length 37.6 (34.8–39.6); second anal spine length 28.4 (25.9–37.1); gill raker length 4.6 (4.0–6.1); gill filament length 14.3 (11.7–14.9). Proportions as % eye diameter: gill raker length 23.5 (25.6–28.6); gill filament length 72.9 (51.6–85.7).

Snout steep, nearly vertical, projecting very slightly in front of upper jaw. Mouth small, inferior, maxillary extending to middle of pupil.

Five upper and five marginal snout pores, rostral fold deeply notched. Three pairs of mental pores, anterior pair with a common opening. Chin lacking barbel.

Upper jaw with a single, outer row of closely spaced, enlarged teeth, and an inner band of small,

conical teeth, comprising five anterior rows and three posterior rows. Lower jaw with a band of uniformly small, conical teeth, comprising six to seven anterior rows and five posterior rows.

Eye small, circular. Interorbital space very broad, wider than eye diameter. Nostrils just before eye; anterior and posterior nostrils ovate. Gill rakers short, stiff (Fig. 2C); gill filaments about three times as long as gill rakers adjacent to angle of gill arch.

Scales moderate in size; cycloid on anterior half of interorbital space, cheek, preoperculum, pectoral axil, throat, membrane of fins; ctenoid elsewhere on head and body.

Second or third dorsal spine longest. First soft ray of pelvic fin with short filament. Second anal spine short, about half length of first anal soft ray.

Swimbladder hammer-shaped, with a number of arborescent appendages along entire lateral surface. Sagitta Johniine pattern (Trewavas, 1977). Drumming muscle thick in males, thin or absent in females.

Colour in alcohol: light brown dorsally, creamy-white ventrally. Mouth lining pale. Lining of gill cavity and peritoneum spotted with a few melanophores. Pectoral axil slightly dusky. Spinous dorsal fin mottled with black spots; soft dorsal, pectoral, and caudal fins gray; pelvic and anal fins pale. Colour when fresh: unknown.

Distribution. Known from Thailand (Songkhla and Phuket) and Indonesia (Jakarta).

Etymology. The specific name is derived from *latus* (L.), broad and *frons* (L.), forehead, in reference to the wide interorbital space of the new species.

Remarks. Amongst the species included in *Johnius* (*Johnius*), *J. latifrons* resembles *J. belangerii* (Cuvier, 1830), *J. weberi* Hardenberg, 1936, and *J. macrorhynchus* (Mohan, 1976) in having no mental barbel(s), less than 30 dorsal soft rays, less than 10 lower gill rakers, and relatively small, ctenoid scales (there being more than six and 10 scales above and below the lateral line, respectively). *J. cantori* Bleeker, 1874, known only from the holotype, is also similar to the new species as discussed below.

Bleeker's (1874) description of *Johnius cantori* was based solely upon Cantor's (1849) description of "*Johnius maculatus* Bloch-Schneider, Var. ?," in turn based on a single specimen from Malaya (BMNH 1860.3.19.223, a stuffed, half-skin, 102.0 mm SL; Fig. 5). Since then, the identity of the species and its generic placement has remained uncertain (Day, 1876; Weber and de Beaufort, 1936; Trewavas, 1977). However, careful examination of Cantor's

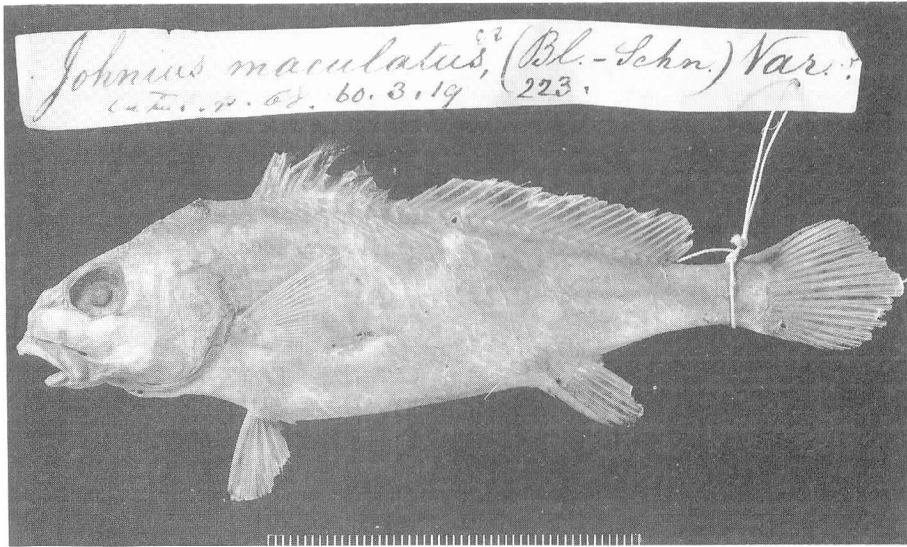


Fig. 5. *Johnius (Johnius) cantori* Bleeker, holotype, BMNH 1860.3.19.223, 102.0 mm SL.

description reveals that *cantori* apparently belongs to *Johnius*. Under *Johnius maculatus* Bloch-Schneider, Var. ?, Cantor stated, "The form of the air-vessel and the number of the lateral appendages resemble those of *Johnius belangerii*," whilst in the descriptions of "*Johnius belangerii*" and "*Johnius dussumieri*," he stated, respectively, "The form and length of the air-vessel is that of *J. dussumieri*" and "The anterior part of the air-vessel is dilated, forming a rounded lateral process on each side of the vertebral column." It follows therefore, that "*Johnius maculatus* Bloch-Schneider, Var. ?" (= *J. cantori*) had a hammer-shaped swimbladder characteristic of *Johnius* (Trewavas, 1977; Sasaki, 1989), although no such information can now be obtained from the (half skin) holotype. Furthermore, the absence of a row of enlarged teeth on the lower jaw in the holotype places the species in the subgenus *Johnius*. Accord-

ingly, the species is classified as *Johnius (Johnius) cantori*.

Although a detailed description and comparisons must await additional material, *Johnius (Johnius) cantori* should be regarded as a valid species at the present time, because it possesses a lower number of dorsal soft rays (23) than recorded for other species of *Johnius (Johnius)* lacking chin barbel(s). It resembles *J. (J.) latifrons* in having nine scales above and 13 scales below the lateral line, although Trewavas (1977) counted six and nine, respectively.

The new species most obviously differs from *Johnius belangerii*, *J. weberi*, and *J. macrorhynchus* in having a greater interorbital width (Table 1; Fig. 6, top). The partial overlap between the new species and *J. belangerii* is due to the relatively wider interorbital space measured in a small (46.1 mm SL) specimen of the latter. The interorbital width of *J.*

Table 1. Selected diagnostic proportions of *Johnius (Johnius) latifrons* sp. nov. and related species

	<i>latifrons</i> sp. nov.	<i>belangerii</i>	<i>weberi</i>	<i>macrorhynchus</i>	<i>cantori</i>
SL (mm)	74.5–152.6	46.1–151.1	63.0–155.5	53.8–167.9	102.0
Proportions					
Interorbital width (% SL)	7.7– 9.9	5.5– 9.1	6.3– 7.9	6.2– 8.0	—
(% HL)	26.1–30.6	18.5–28.0	20.5–25.8	19.3–24.6	—
Eye diameter (% SL)	5.0– 8.6	6.6–11.3	6.3– 8.6	6.8–10.0	7.8
(% HL)	16.7–26.4	22.9–34.6	20.7–27.5	22.2–30.2	26.5
2nd anal spine length (% SL)	8.1–11.0	10.2–15.6	7.8–12.9	6.4–13.3	13.7
(% HL)	25.9–37.1	36.5–48.0	26.0–41.2	20.6–43.0	45.2

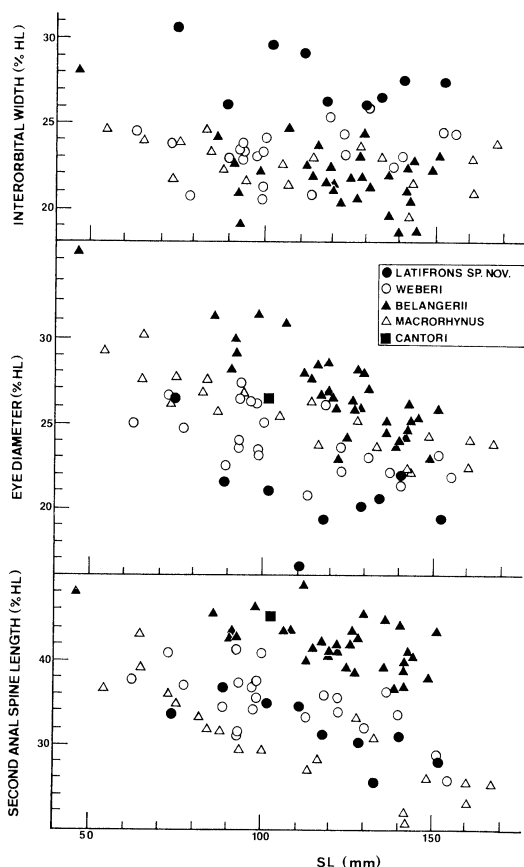


Fig. 6. Three morphometric features in five species of *Johnius* (*Johnius*) plotted against SL.

cantori could not be measured owing to the condition of the holotype. Moreover, although there is some overlap due to negative allometry, the new species generally has a smaller eye than in the other four species (Table 1; Fig. 6, middle). *J. latifrons* is further distinguished from *J. belangerii* and *J. cantori* in having a shorter second anal spine (Table 1; Fig. 6, bottom).

Other characters distinguishing *Johnius* (*Johnius*) *latifrons* from the above congeners include: 25–29 (modally 28) dorsal soft rays (23 in *cantori*); uniformly conical lower jaw teeth (molariform teeth in *macrorhynchus*); blunt snout (narrowly pointed in *weberi*); mostly cycloid scales on throat (mostly ctenoid in *belangerii*, *macrorhynchus*, and *cantori*); and pale pelvic fins (at least distally dark in *belangerii*).

Johnius (*Johnius*) *latifrons* is further compared with *J. cantori*, because the possibility cannot be completely excluded that the differences mentioned

above are within the range of variation of a single species. Although the number of specimens available for study was too few to provide a good estimate of the variability of diagnostic characters, a radiograph of *J. cantori* revealed that the posterior angle of the supraoccipital crest was acutely pointed and that a bony interorbital septum was absent, as typical in sciaenids (Sasaki, 1989). On the other hand, in all specimens of *J. latifrons* examined, the posterior angle of the supraoccipital crest was broadly rounded, and the frontal projected downwards forming a bony septum with the lateral ethmoid. Although these characters have not been considered in sciaenid taxonomy, such osteological differences clearly separate *J. latifrons* from *J. cantori*.

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西太平洋から得られたコニベ属（コニベ亜属）の2新種および同亜属2種の有効性

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西太平洋から得られたニベ科コニベ属（コニベ亜属）の2新種を記載した。 *Johnius (Johnius) trewavasae* は台湾、香港およびシンガポールから採集され、背鰭軟条が24-27本、側線より上方の鱗が5-6枚、下方の鱗が7-10枚、鰓弓下枝の鰓耙が6-8本で太短い、肋骨が第11脊椎骨にある、下顎長が頭長の33.8-38.4%などの形質で同亜属の他種から区別される。 *J. (J.) latifrons* はタイとインドネシア（ジャワ島）から採集され、背鰭軟条が25-29本、側線より上方の鱗が7-9枚、下方の鱗が11-14枚、鰓弓下枝の鰓耙が7-9本で太短い、両眼間隔幅が頭長の26.1-30.6%、眼径が16.7-26.4%、臀鰭第2棘長が25.9-37.1%などの特徴を示す。 Bleekerによって南米のスリナム産として記載された *Johnius heterolepis* とマラヤから記載された *J. cantori* はともに属のレベルで実体が不明であった。両種はコニベ亜属の有効種で、西太平洋にのみ分布する。

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